ABSTRACT

Embodiments of the present application disclose a task scheduling network training method based on deep reinforcement learning. The task scheduling network training method based on deep reinforcement learning includes: acquiring a job to be scheduled; scheduling a plurality of tasks by using a task scheduling network; determining rewards at a plurality of time steps according to a scheduling result of the task scheduling network, where respective reward at each of the time steps includes a carbon reward, an electricity cost reward and a task latency reward; calculating a return G_t according to the rewards at the plurality of time steps, where the return G_t is a cumulative reward from a time step t to the end of a scheduling process; adjusting parameters of the task scheduling network based on a gradient algorithm according to at least the return G_t. Through the present application, it is beneficial to realize low-carbon and economical operation of a data center, and solve the technical problem that a task scheduling algorithm in related technologies cannot achieve low-carbon economic operation of the data center on the basis of ensuring the timeliness of task processing, as well as the problem that the scheduling algorithm in the related technologies does not converge or converges slowly.

Fig. 1